

NAME: _____ DATE: _____ CLASS: _____

MY NASA DATA: Sea Surface Temperature Trends of the Gulf Stream
http://mynasadata.larc.nasa.gov/lesson-plans/?page_id=474?&passid=13

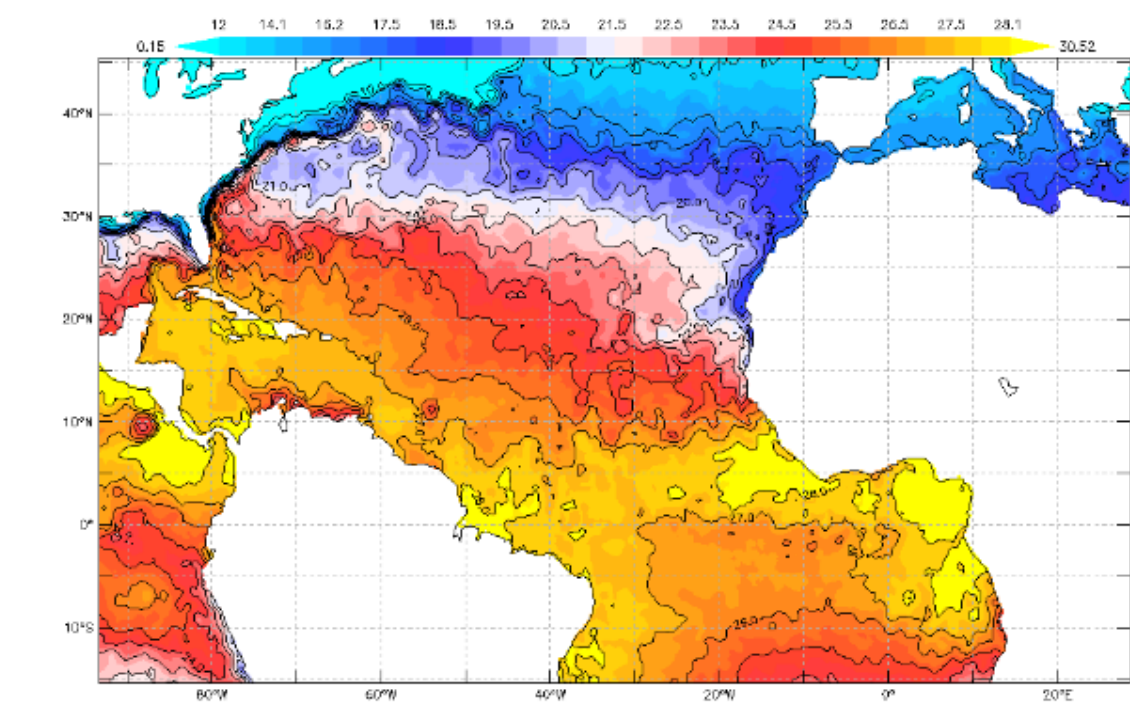
Pre-Lesson Inquiry Activity:

Pre-lesson inquiry activity: Have students write hypotheses about (1) the effects of the Gulf Stream on coastal water temperatures and (2) the effects of the Gulf Stream on the fishing industry

Part 1:

Students will explore the Live Access Server (LAS) and produce plots of sea surface temperature. An example plot of SST for the Gulf Stream is provided above.

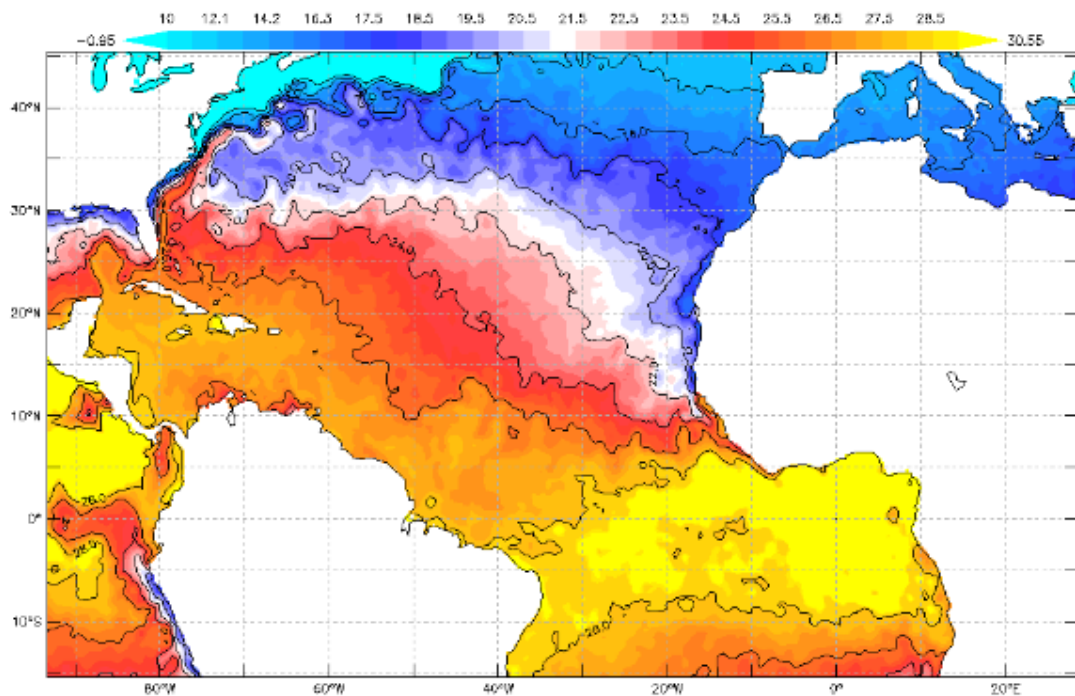
Plot 1 –Daily Sea Surface Temperature (GHR SST) in degrees Celsius For Jan 15, 2014



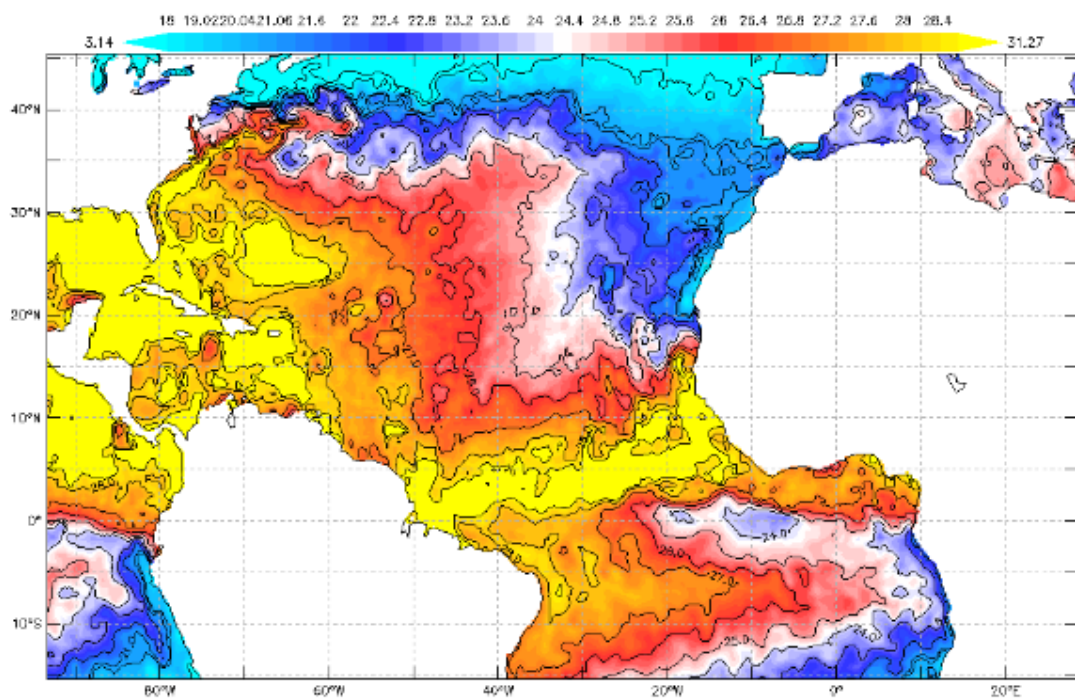
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Plot 2 –Daily Sea Surface Temperature (GHRST) in degrees Celsius For April 15, 2014



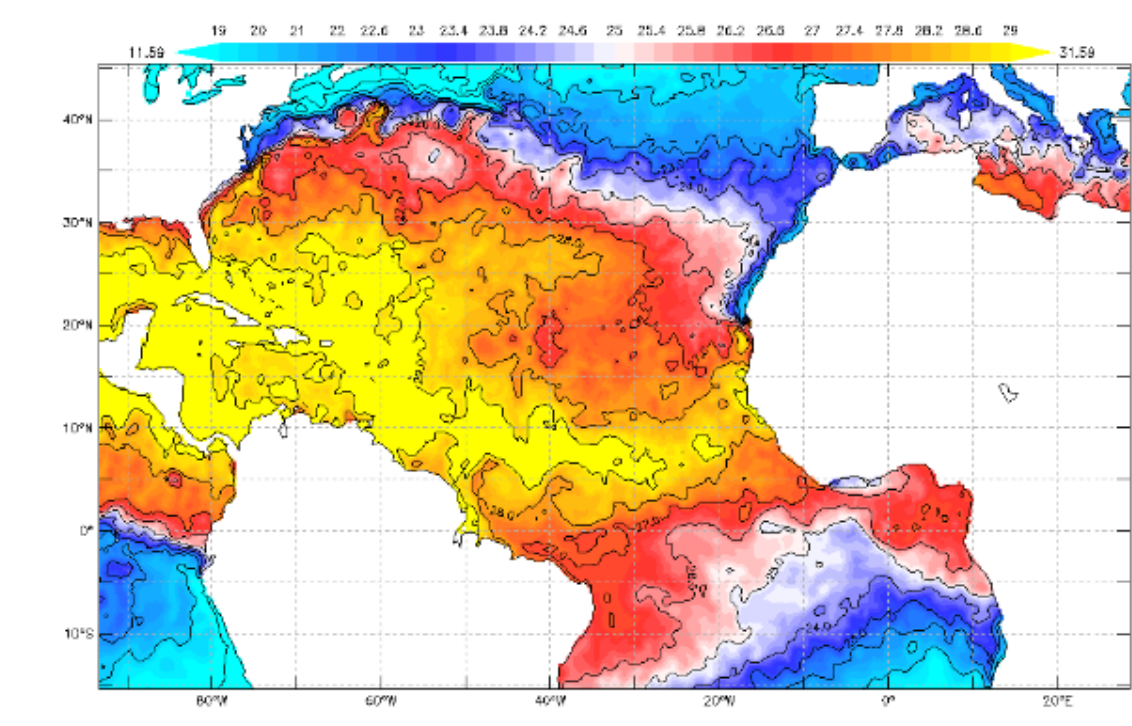
Plot 3 –Daily Sea Surface Temperature (GHRST) in degrees Celsius For July 15, 2014



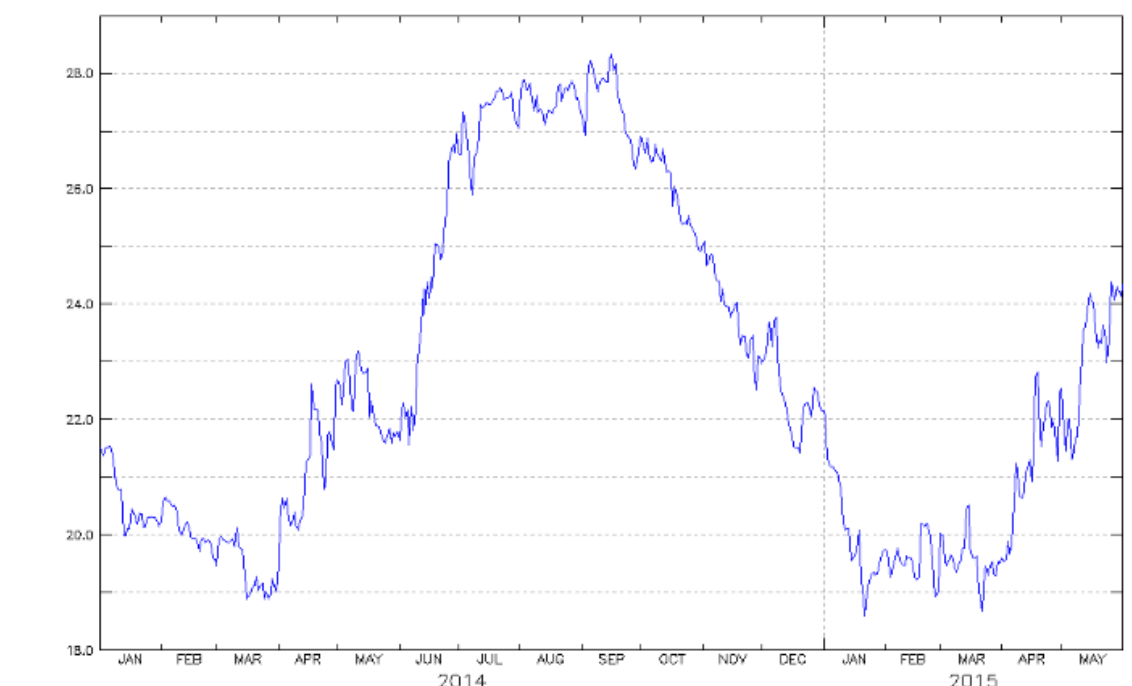
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Plot 4 –Daily Sea Surface Temperature (GHR SST) in degrees Celsius For Oct 15, 2014



Part II: Students will prepare a time series of data for particular location(s) on the Gulf Stream.



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Part III: Please refer to the lesson to complete part III of this lesson, as it does not use the LAS to obtain the data.

Questions:

1. Locate your data position(s) on a map of the Atlantic Ocean. Find the minimum and maximum temperature at your location(s). Compare results for different locations for dates in January, April, July and October. Discuss any major differences in temperature over the course of the year. Is the position of the Gulf Stream changing by season?

2. Can you describe how the sea surface temperature of the Gulf Stream affects the weather along the East Coast and in Europe? How do you think the position of the Gulf Stream may affect offshore operations such as the fishing industry? Do the results agree with your hypotheses?

3. At latitude 45 N, winter temperatures of Bar Harbor, Maine can get as low as -15 C while at Newquay, United Kingdom it can get as low 41 C. Can you draw any conclusions about the difference in climate between western and eastern shores of the North Atlantic Basin?